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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/478,799	01/07/2000	Masanobu Hayama	23.1090	2190

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EXAMINER

ANYASO, UCHENDU O

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 03/13/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.
09/478,799

Applicant(s)
Hayama et al

Examiner
Uchendu O. Anyaso

Art Unit
2675



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on Dec 31, 2001

2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-19 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-19 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirements.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

- ☐ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

19) ☐ Notice of Informal Patent Application (PTO-152)

17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____

20) ☐ Other: _____

DETAILED ACTION

1. **Claims 1-19** are pending in this action.

Claim Rejections - 35 USC ' 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 4-8, 10 and 13-17** are rejected under 35 U.S.C. 102(b) as being anticipated by *Rowe* (U.S. Patent 5,442,377).

Regarding **independent Claims 1 and 10**, and for **claims 4, 13**, *Rowe* teaches an input device that provides a multi-axis continuous loop or boundaryless input device for control of a pointer or cursor on a computer screen or other graphical displays (column 3, lines 3-6).

Furthermore, *Rowe* teaches a roller bearing (20) that is connected to a wheel having indicia (26) uniformly spaced about surface 28 of rotation sensor (24) so that the roller bearing (20) rotates about its longitudinal axis in response to movement of spheres (12a-c) (column 4, lines 50-59, figure 1 at 24, 26).

Furthermore, *Rowe* teaches a plurality of rotating bodies (12, 12a-12c) in the shape of spheres and are rotatably disposed on the circumferential edge of the roller bearing (20) in the (column 4, lines 50-59, figure 1 at 12, 12a-12c, 24, 26).

Also, *Rowe* teaches a detector (30) that is responsive to the indicia (26) in order to generate a signal which may be processed and communicated to the cursor or pointing device to

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achieve movement of the cursor (*see* column 5, lines 2-13, figure 1 at 12a-c, 30; *see generally* column 1, lines 15-23).

Regarding **Claims 5-8 and 14-17**, in further discussion of claims 1 and 10, *Rowe* teaches/shows the cylindrical and spherical configurations of the rotating bodies (column 4, lines 50-59, figure 1 at 12, 12a-12c, 24, 26).

Claim Rejections - 35 USC ' 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 2, 3, 9, 11, 12, 18 and 19** are rejected under 35 U.S.C. 103(a) as being unpatentable over *Rowe* (U.S. Patent 5,442,377) in view of *Siddiqui* (U.S. 5,912,661).

Regarding **Claims 2 and 11**, in further discussion of claims 1 and 10, *Rowe* teaches buttons (54, 56) which are utilized in the same fashion as conventional signal buttons on trackball or mouse-type devices (column 6, lines 24-33, figure 4 at 54, 56). However, *Rowe* does not teach in detail the configuration of these buttons in relation to the wheel, rotating bodies or roller bearing. On the other hand, *Siddiqui* teaches left and right click buttons (18, 20) with their respective left and right microswitches (54, 56) and how they are manipulated with the wheel to operate the input device (column 4, lines 11-20, figure 7 at 18, 20, 54 & 56).

Furthermore, *Siddiqui* teaches a third switch in the form of a switch engager (50) which depresses the switch button (51) of a microswitch (52) when the wheel button (22) is depressed (column 4, lines 11-20, figure 7 at 22, & 50-52).

Also, *Siddiqui* teaches a detecting means for the third switch by teaching that microswitch (52) is mounted on a circuit board (28), along with left and right microswitches (54, 56) that are activated by left and right mouse buttons (column 4, lines 11-20, figure 7 at 28, 52, 54 & 56). This provides a detection means for detecting the operating state of the switches and also enables the mouse buttons (18, 20) to provide tactile and aural feedback to a user who depresses the wheel (22) (column 4, lines 11-20, figure 7 at 18, 20 & 22).

Thus, it would have been obvious for a person of ordinary skill in the art to combine *Rowe* and *Siddiqui*'s inventions because while *Rowe* teaches an input device for control of a pointer or cursor on a computer screen that utilizes a roller bearing (20) connected to a wheel having indicia (26) uniformly spaced about surface 28 of rotation sensor (24) so that the roller bearing (20) rotates about its longitudinal axis in response to movement of spheres (12a-c) (column 4, lines 50-59, figure 1 at 24, 26), *Siddiqui* teaches in detail the configuration and operation of the microswitches in relation to the wheel of an input device. The motivation for combining these inventions would have been to provide a more efficient tactile and aural feedback to a user of this input device when a user depresses the input device or rotates the wheel (column 1, lines 60-63).

Regarding **Claims 3 and 12**, in further discussion of claims 2 and 11, *Siddiqui* teaches/shows a ratchet construction of his invention wherein the wheel is adapted to fit in this ratchet construction (*see* figures 2 & 3).

Regarding **Claims 9, 18 and 19**, in further discussion of claims 1 and 10, *Rowe* teaches buttons (54, 56) which are utilized in the same fashion as conventional signal buttons on trackball or mouse-type devices (column 6, lines 24-33, figure 4 at 54, 56). However, *Rowe* does not teach in detail the configuration of these buttons in relation to the wheel, rotating bodies or roller bearing. On the other hand, *Siddiqui* teaches left and right click buttons (18, 20) with their respective left and right microswitches (54, 56) and how they are manipulated with the wheel to operate the input device (column 4, lines 11-20, figure 7 at 18, 20, 54 & 56).

Furthermore, *Siddiqui* teaches a mouse (12) having a rotating wheel button (22) with an optical encoding wheel (44), and axle (30) which had left and right bearing surfaces (36, 38) which are all mounted along the circumference of the wheel (column 3, lines 3-8, figure 2 at 12, 22, 30, 36, 38 & 44).

Furthermore, *Siddiqui* teaches an optical encoding wheel, light source (46), and a light detector (48) which serve as a detection means by sensing the motion of the optical encoder which is along the surface of the wheel (22), and then providing a positioning signal (*see* Abstract; *see also* column 3, lines 43-51, figure 2 at 12, 44 & 48; column 4, 33-40, figure 7).

Also, *Siddiqui* teaches left and right click buttons (18, 20) with their respective left and right microswitches (54, 56) (column 4, lines 11-20, figure 7 at 18, 20, 54 & 56). Furthermore, *Siddiqui* teaches a third switch in the form of a switch engager (50) which depresses the switch

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button (51) of a microswitch (52) when the wheel button (22) is depressed (column 4, lines 11-20, figure 7 at 22, & 50-52).

Also, *Siddiqui* teaches a detecting means for the third switch by teaching that microswitch (52) is mounted on a circuit board (28), along with left and right microswitches (54, 56) that are activated by left and right mouse buttons (column 4, lines 11-20, figure 7 at 28, 52, 54 & 56). This provides a detection means for detecting the operating state of the switches and also enables the mouse buttons (18, 20) to provide tactile and aural feedback to a user who depresses the wheel (22) (column 4, lines 11-20, figure 7 at 18, 20 & 22).

Thus, it would have been obvious for a person of ordinary skill in the art to combine *Rowe* and *Siddiqui*'s inventions because while *Rowe* teaches an input device for control of a pointer or cursor on a computer screen that utilizes a roller bearing (20) connected to a wheel having indicia (26) uniformly spaced about surface 28 of rotation sensor (24) so that the roller bearing (20) rotates about its longitudinal axis in response to movement of spheres (12a-c) (column 4, lines 50-59, figure 1 at 24, 26), *Siddiqui* teaches in detail the configuration and operation of the microswitches in relation to the wheel of an input. The motivation for combining these inventions would have been to provide a more efficient tactile and aural feedback to a user of this input device when a user depresses the input device or rotates the wheel (column 1, lines 60-63).

Response to Arguments

6. Applicant's arguments filed December 31, 2001 have been fully considered but they are not persuasive.

Regarding Claim 1, Applicant argues that as amended, claim 1 includes the distinguishing features of a plurality of rotating bodies disposed along a circumferential edge of said wheel, and rotatable on the circumferential edge as an axis of rotation. This aspect of applicant's amendment is fully addressed by *Rowe* wherein, *Rowe* teaches a plurality of rotating bodies (12, 12a-12c) in the shape of spheres and are rotatably disposed on the circumferential edge of the roller bearing (20) in the (column 4, lines 50-59, figure 1 at 12, 12a-12c, 24, 26).

As such, applicant's amendment claim is fully anticipated by *Rowe*, and thus, renders applicant's arguments non-persuasive.

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 5,270,690 to *Oberg* for a bi-dimensional input control system.

U.S. Patent 5,838,303 to *Rowe* for a continuous loop mouse.

U.S. Patent 5,493,314 to *Rowe* for a continuous loop mouse

U.S. Patent 5,479,314 to *Rowe* for a continuous loop mouse.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Uchendu O. Anyaso** whose telephone number is **(703) 306-5934**. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Steve Saras**, can be reached at **(703) 305-9720**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

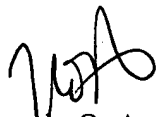
or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).


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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.



Uchendu O. Anyaso

03/09/2002



STEVEN SARAS
SUPERVISORY PATENT EXAMINER
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